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~~(TS)~~ NATIONAL RECONNAISSANCE PROGRAM STATUS (SATELLITE)

29 JANUARY 1964

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ST-162-12-64

SUMMARY OF 1963 OPERATIONS

During 1963, we conducted seven successful CORONA missions which resulted in over forty-five million square miles of photographic coverage; [redacted] one LANYARD mission, one-hundred, twenty thousand square miles; and two ARGON missions. In SIGINT reconnaissance [redacted] in weather one partially successful mission.

Our failures were four in the CORONA program, two in LANYARD, one each in ARGON [redacted] and two in Weather.

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REGRADING; [illegible]
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~~(TS)~~ SUMMARY OF SATELLITE RECONNAISSANCE PROGRAM

CORONA M - 162

During 1963 seven successful CORONA MURAL general search missions were accomplished. There were also four failures (two due to booster problems and two due to AGENA problems. The reduced launch rate in 1963 - 11, as compared to 18 (with 14 successes) in 1962 - resulted in part from a reduced requirement for this type of mission and in part from our policy of intensive reviews and rework prior to flight in order to eliminate identified causes of failure.

The quality of the CORONA photography has improved since 1962. This was in part because improved guidance accuracy enabled better control of orbital period, to within ± .15 minute rather than the ± 1.4 of 1962, and permitted consistently lower orbits. Camera modifications accounted for further improvement.

CORONA J

The CORONA "J" system with its dual recovery capability has had only one flight since I reported in September. On this mission, after a successful first recovery, a malfunction in the secure command system prevented reactivation of the AGENA and denied operation of the second half of the mission. An extensive ground test program was conducted during the Fall and a launch was scheduled for 20 January. This launch was aborted during the countdown due to extremely high winds.

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The payload was so damaged by the storm that refurbishment at the manufacturer's plant was required. The next launch is now scheduled for 14 February. A launch rate of one per month is scheduled thereafter.

LANYARD

The LANYARD program, conceived as a [redacted] successful. As a result the flight program was cancelled after the third, and only successful, launch. The remaining payload systems, now in various stages of completion, are being completed and will be stored.

IMPROVED THOR BOOSTER

In 1962 we undertook to increase the capability of the THOR booster by strapping three solid propellant rockets to it. Because of our confidence in the THOR and the Douglas Company, we planned no special test launches of this improved booster.

Of 12 improved THORs used to date, 11 have been completely successful. The only failure - the first launch attempt - was caused by failure of the launch crew to complete the closure of an electrical circuit; this prevented ignition of one of the solid motors.

ARGON - Geodetic and Mapping Program

During the last six months of 1962, two successful ARGON missions were conducted -- one, a normal four-day operation in August and the second, a five-day operation in October.

Of the four additional payloads ordered last summer three are assigned launch vehicles and are scheduled for launch in

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May, June and July. The fourth payload is available if required.

Recent evaluations by the AMS and the ACIC have indicated that adequate data to satisfy Defense Department mapping requirements can be realized from the photographs obtained from the Stellar/Index camera now flown in the CORONA program and the CORONA photography itself. If this proves to be the case there will be no requirement to continue ARGON missions.

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417 - Weather Satellite

There have been two Project 417 missions since the last report. The first was attempted on 20 September, but the SCOUT booster failed to schieve orbit due to loss of third-stage control (believed to be caused by excessive heating of the control components located near the engine nozzle).

In view of the many difficulties that the SCOUT boosters--three failures out of five attempts, an only slightly better record with NASA SCOUT launches, and the long delays in realizing a so-called flight-ready status, it was decided to change to a THOR-AGENA booster for the next mission and thereby maximize the probability of getting a 417 weather satellite back in operation. The considerably greater capability of the THOR-AGENA was sufficient to carry two separate 417 payloads and thereby increase the odds in favor of a long operational life.

A THOR-AGENA with two 417 payloads was successfully launched on 18 January. Both Weather satellites are working very well and both the quality and quantity of pictures are superior to those obtained from previous flights.

The THOR-AGENA was used as the booster for the 417 only as an expedient until a less costly replacement for the SCOUT could be found or until a significant improvement of the SCOUT reliability was achieved. Since the latter does not look too promising, work is proceeding to use SM-75 THOR missiles (that

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have been returned from overseas and reworked) as the booster for the future 417 satellites. This booster when combined with the fourth stage solid motor of the SCOUT promises to give somewhat better performance than the SCOUT at comparable cost. It should realize considerable better reliability. The first of these boosters (called Burner I) is scheduled for launch in July 1964.

In October 1964 we expect to fly an improved version of the 417 satellite vehicle with better reliability and increased on orbit life.

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In the preceding sections of this report because of your familiarity with the various photographic systems, I have eliminated detailed discussion of their characteristics. The section on SIGINT Reconnaissance is longer than in previous reports because details of the various system characteristics are included, not because this program has received greater emphasis than in previous years.

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CONSOLIDATED LAUNCH SCHEDULE

(* = Spare Payloads)
(a - Available for launch if required)

CATEGORY	CY 1964												CY 1965											
	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
A. CORONA-J		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
B. CORONA-J Res					1	2	1	1																
C. CORONA-M Res		1	1																					
D. ARGON					1	1	1	*																
[redacted]																								
I. 417-THOR	1						1	1		1	1		1	1										

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